

Induction Heating Engine Valve

United Induction Heating Machine Limited

We are experienced in Induction Heating, induction heating machine, Induction Heating equipment. They are widely used in induction heating service, induction heat treatment, induction brazing, induction hardening, induction welding, induction forging, induction quenching, induction soldering, induction melting and induction surface treatment applications
<http://www.uihm.com>

Heating Engine Valve Objective To heat the face of an engine valve head to 900°F and maintain the temperature for an extended time, high temperature stress test.

Material Engine valve head (two sizes), temperature sensing paint

Temperature 900 °F

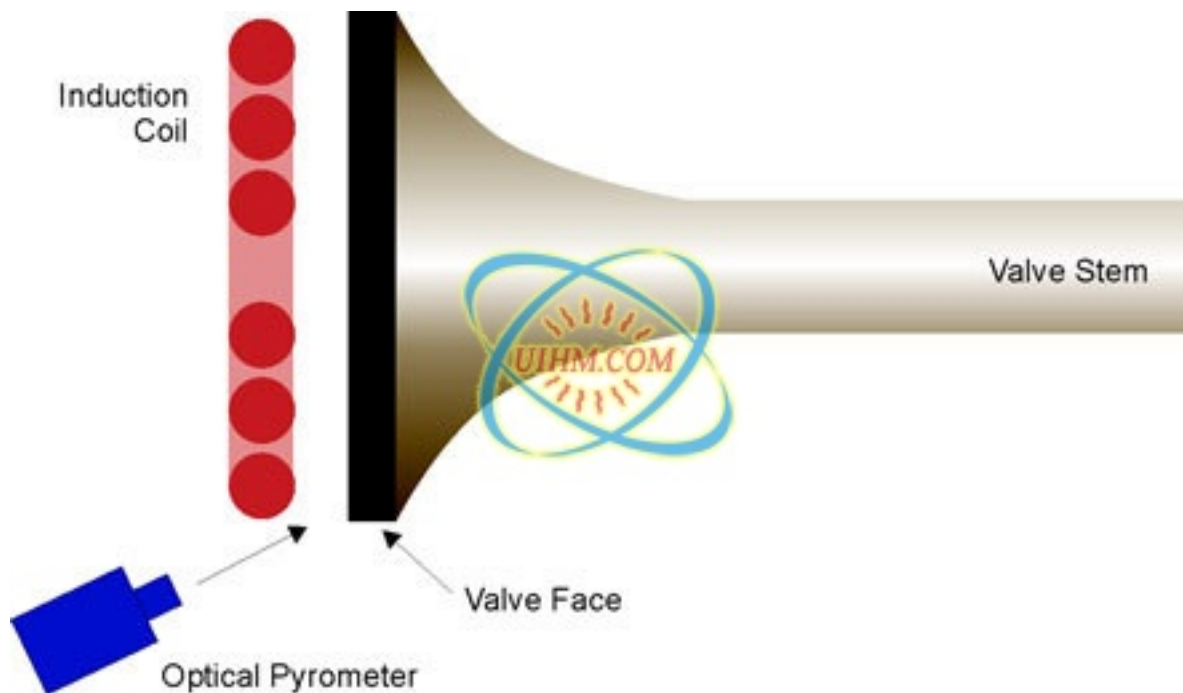
Frequency 223 kHz for large part; 271 kHz for smaller part

Equipment Power of 10kW power supply, remote heat station with one 0.66 mF capacitor, a specially designed, multiturn induction coil and an optical pyrometer.

Process A specially designed multi-turn pancake coil was used to provide uniform heat to the part. To provide optimum coupling, the face of the valve head was placed approximately 3/8" away from the coil. RF power was applied for 4 minutes to heat the larger valve to 900°F; the smaller valve head required 2 minutes to reach the same temperature. For closed-loop temperature control, the optical pyrometer was then used to maintain the temperature at 900°F.

Results Uniform and repeatable results were obtained with the UIHM power supply and induction coil at 900°F.

Depending on the part size, the correct temperature was reached in 2 to 4 minutes. Heating Engine Valve



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